2:30

REOPERATION AFTER TOTAL AORTIC ROOT AND VALVE REPLACEMENT WITH AORTIC HOMOGRAFT

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Total aortic root and valve replacement with an aortic homograft + reimplantation of the coronary arteries has been used successfully since 1976 for dealing with difficult aortic stenosis in the young and other problems. The true value of any valve replacement should be judged only after the inevitable reoperation. The study was to investigate incidence, difficulties, and findings in reoperation on the aortic root.

47 consecutive patients aged 6-22 had the first procedure in the National Heart Hospital 1976-89 for difficult reoperated aortic stenosis and aortic root disease. 10 patients have required reoperation; 3 early (11 days to 14 months) due to technical problems with false aneurysm in proximal suture line, leaking distal suture line and kinked coronary artery, and blocked right coronary artery in hypercholesterolaemia.

There were 7 late reoperations, 6-12 years after the first root. The aortic root was calcified but only one had obstructive cusp calcification, another calcified and infected, and 5 had pliable valve cusps with speckles of calcification but required surgery for holes in cusps (2), stretched ring (1), calcification of stenosed distal suture line (1), and para-aortic abscess with fistulae (1) in whom the aortic valve cusps were normal. The aortic valve was replaced by a new homograft root (3), pulmonary autograft (1), xenograft in Dacron (1). Two had homograft valve put in original root. 4 required vein grafts from old damage (2) or new damage (2) which is an important hazard.

One died at early reoperation from cerebral emboli and 2 late reoperated patients died from infection; one in relation to infected damage to the left coronary artery. The rest remain well (Ability Index 1/2) 2-7 years later.

It is possible to shell out the valve from the root in some but sewing is difficult with calcification. Replacing the root is the best option and special care with the coronaries is vital.

3:00

IS EARLY SURGERY THE OPTIMAL TREATMENT FOR VEGETATIVE BACTERIAL ENDOCARDITIS IN HEMODYNAMICALLY COMPROMISED PATIENTS.

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Early surgery in hemodynamically compromised patients with native valve vegetative bacterial endocarditis (VBE) is associated with a high mortality, and the timing of surgery is debatable. Surgical results (1982-88) in 203 such patients (age 33±13 yrs) referred consecutively for early valve replacement (VR) were analysed. Mean interval from admission to surgery was 11 days (56% < 1 week). Urgent surgery was required in 108 pts (53%). The following surgical procedures were performed:
for mitral VBE (n=50): mitral VR in 43, mitral valve repair in 2, double VR in 5
for aortic VBE (n=110): aortic VR in 95, double VR in 15
for mitral and aortic VBE (n=43): double VR in 30, aortic VR plus mitral debridement in 13.
Implanted were 247 mechanical prostheses (41% St Jude, 57% Medtronic-Hall) and 4 tissue valves. Extensive infection (annular abscess and/or infection spread into surrounding extravalvar tissues) was documented in 64 pts (32%). Eight pts (4%) all requiring urgent surgery, died in hospital: 6 with aortic, 1 with mitral and 1 with double valve infection. Early periprosthetic leaks were detected in 7/203 (3%): 5 with aortic, 1 with mitral and 1 with double valve infection. Early valve surgery in this group of pts is associated with an acceptably low morbidity and mortality and is the optimal form of therapy.

2:45

VALVE REPLACEMENT DOES NOT APPEAR TO PROLONG SURVIVAL IN AORTIC REGURGITATION PATIENTS.

Participants in the VA Cooperative Study on Valvular Heart Disease (Prepared by Karl E. Hammermeister, Charles Oprian, Kwan Hur, William G Henderson, Gulshan K. Sethi)

The purpose of these multivariate survival analyses is to determine if valve replacement appears to have a beneficial effect on survival of aortic regurgitation patients. One of the primary goals of the VA Cooperative Study on Valvular Heart Disease is to determine important prognostic factors in patients with valvular heart disease to aid in the decision to recommend valve replacement. To achieve this goal 1,483 patients were entered into a registry at the time of diagnostic catheterization for valvular heart disease, and have now been prospectively followed for an average of 7.5 years. Patients in this registry were uniformly characterized by the prospective recording of over 300 baseline descriptors at the time of diagnostic catheterization. The decision to undertake valve replacement was made by the cardiology-cardiac surgery team caring for the patient based on accepted clinical criteria. This report compares the survival of 102 medically treated and 147 surgically treated patients with aortic regurgitation after adjustment for the significant prognostic variables. We used a series of univariate and multivariate (Cox model) analyses to determine the variables independently predictive of survival from 104 baseline characteristics from the history, physical examination, routine laboratory including ECG and chest x-ray, and cardiac catheterization with quantitative left ventricular (LV) angiography. The variables in the final predictive model were: age ($p = 0.0035$), CHF score ($p = 0.0165$), nonexertional syncope ($p = 0.0255$), creatinine (0.0303), and LV ejection fraction (0.0459). The form of treatment (medical or surgical) was not significantly predictive of survival ($p = 0.4575$) when added to this multivariate model. These results are strikingly different from similar analyses in 456 aortic stenosis patients from the same study, which showed marked improvement in survival with valve replacement. We conclude that valve replacement may not prolong survival in patients with aortic regurgitation.

3:15

COMPARISON OF OUTCOME AN AVERAGE OF 10 YEARS AFTER VALVE REPLACEMENT WITH A MECHANICAL VERSUS A BIOPROSTHETIC VALVE. RESULTS OF THE VA RANDOMIZED TRIAL.

Participants in the VA Cooperative Study on Valvular Heart Disease (prepared by Karl E. Hammermeister, Gulshan K. Sethi, Charles Oprian, William G. Henderson, Edward Folland, Shukri Khuri, Shahbudin Rahimtoola).

We initiated a randomized trial to compare survival and valve-related complications between adult males undergoing single aortic or mitral valve replacement with a mechanical prosthesis or a bioprosthesis. Five hundred seventy-five patients were randomized in the operating room between 1977 and 1982; the present report represents an average 10-year follow-up, which is 99.7% complete. Survival was similar between patients receiving an aortic mechanical prosthesis or a bioprosthesis; ten year probabilities of survival were 0.52 ± 0.04 and 0.47 ± 0.04, respectively ($p = 0.266$). There was a statistically nonsignificant trend towards better survival after mitral valve replacement for those receiving the bioprosthesis versus the mechanical prosthesis; ten year survival probabilities were 0.47 ± 0.06 and 0.38 ± 0.06, respectively ($p = 0.144$). Like survival, there were no statistically significant differences in the probability of remaining free of a valve related complication at ten years after surgery (aortic mechanical prosthesis 0.40 ± 0.04, aortic bioprosthesis 0.44 ± 0.04, $p = 0.213$; mitral mechanical prosthesis 0.33 ± 0.06, mitral bioprosthesis 0.40 ± 0.06, $p = 0.187$). No primary failures of the mechanical prosthesis were observed. The probability of patients with the bioprosthesis remaining free of primary prosthetic valve failure at ten years was 0.95 ± 0.02 for aortic valves and 0.78 ± 0.07 for mitral valves. Although the incidence of primary prosthetic valve failure is significantly greater in patients receiving the bioprosthesis, the increased incidence of significant bleeding in patients with a mechanical prosthesis resulted in similar overall survival and freedom from valve-related complications in the 2 treatment groups. In conclusion, outcome at ten years after single aortic or mitral valve replacement is similar in patients randomized to a bioprosthesis versus a mechanical prosthesis.